

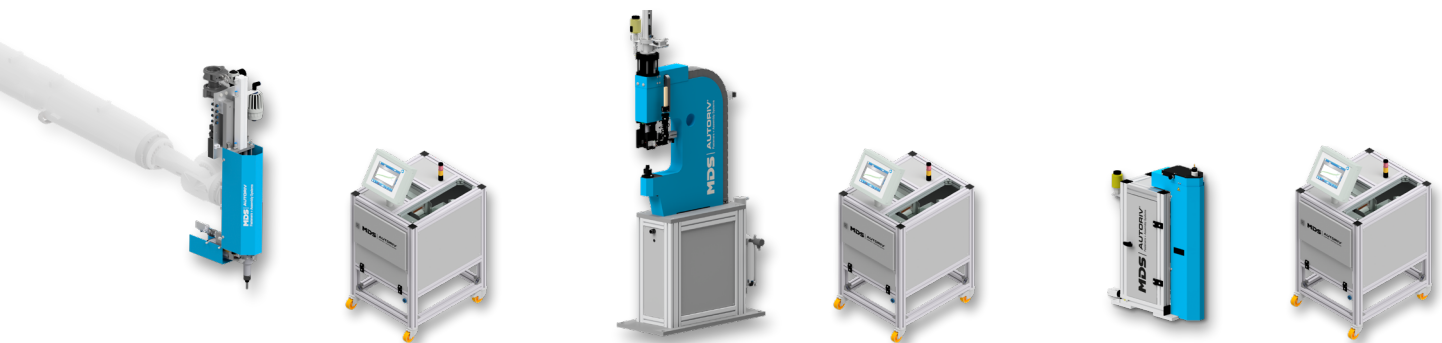


MDS - ALL IN ONE Controller Module

- ▶ Operating philosophy
- ▶ Scope of features



A000	A100	A100+	A210	A220	A230	A240	A250	A260	A270	A290



Suitable for self-clinching fasteners, blind rivet fasteners, and screw fasteners.

- ▶ Uniform user interface
- ▶ Low training requirements
- ▶ Robot interface used for the customer interface.
- ▶ Many diagnostic options
- ▶ Modular design
- ▶ The system can be expanded as needed.

CFast	FTP	USB

MDS - ALL IN ONE Controller Module: Operating Philosophy

The uniform user interface remains consistent across all our MDS products. This means that extensive training isn't necessary when switching between different assembly systems.

We can also operate multiple types of setting heads from a single control system.

We prioritize offering a wide range of diagnostic options. These options include displaying all sensors, determining cylinder travel time, counting fault messages to more easily identify clusters, and logging program steps to make servicing simpler.

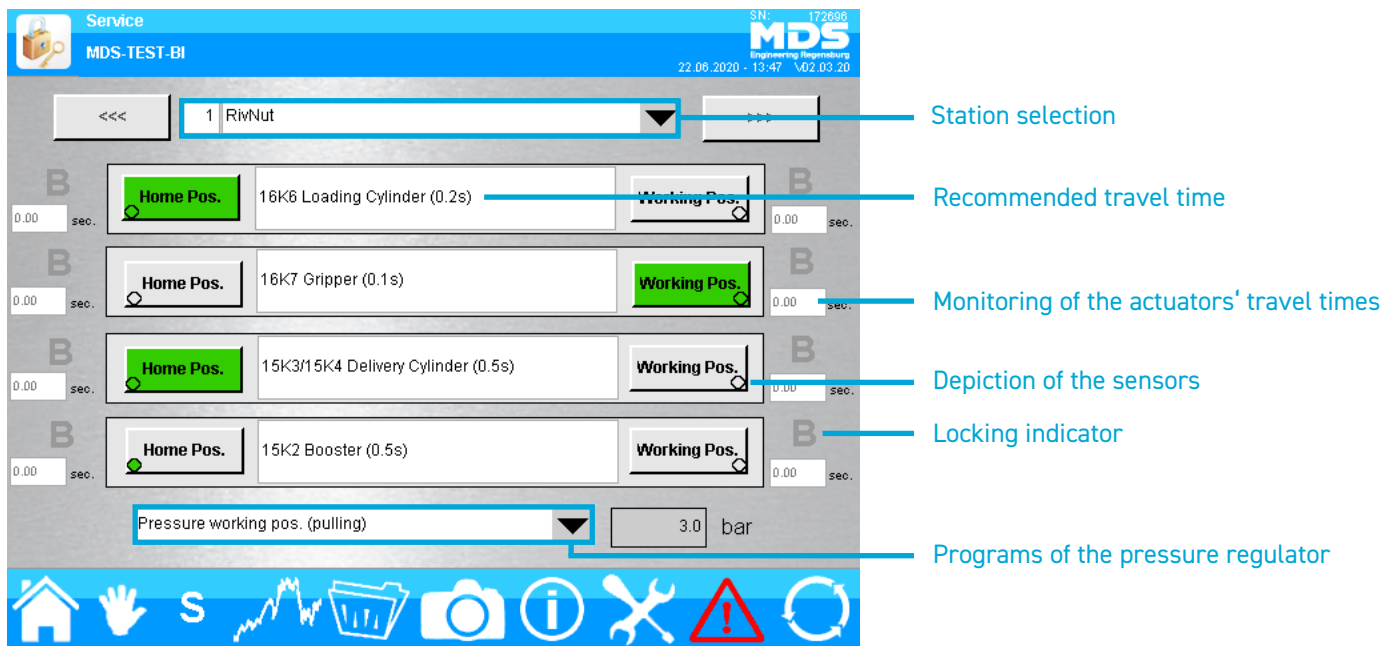
Our modular system greatly simplifies the production process.

It can also be expanded as needed.

For example, it can be expanded to include rivet fasteners, self-clinching fasteners, and various press applications.

Easily navigate the uniform user interface using the intuitive toolbar in the main menu at the bottom of the display. Several languages are available for switching languages.

MDS - ALL IN ONE Controller Module: User Interface



Hand function and travel time monitoring

MDS - ALL IN ONE Controller Module: User Interface

Service MDS-TEST 1 RivNut SN: 172698
 MDS Engineering Regensburg 22.06.2020 13:46 V02.03.20

ERR	Error Message	Counter
0	BNM: 16B6.0 Loading Cylinder: Home pos. missing	0
1	BNM: 16B6.0 Loading Cylinder: Home pos. still active	0
2	BNM: 16B6.1 Loading Cylinder: Working pos. missing	0
3	BNM: 16B6.1 Loading Cylinder: Working pos. still active	0
4	BNM: 16B7.0 Gripper: Home pos. missing	0
5	BNM: 16B7.0 Gripper: Home pos. still active	0
6	BNM: 16B7.1 Gripper: Working pos. missing	0
7	BNM: 16B7.1 Gripper: Home pos. still active	0
8	BNM: 15B4.0 Delivery Cylinder: Home pos. missing	0
9	BNM: 15B4.0 Delivery Cylinder: Home pos. still active	6

Errors Manual Errors Auto Errors Modules Warnings Reset Counter

Depiction of all error messages

Counter for all error messages, identification of accumulations

Error statistics

Service MDS-TEST-BI Interface - Diagnose OUT SN: 172698
 MDS Engineering Regensburg 22.06.2020 13:40 V02.03.20

Station 0

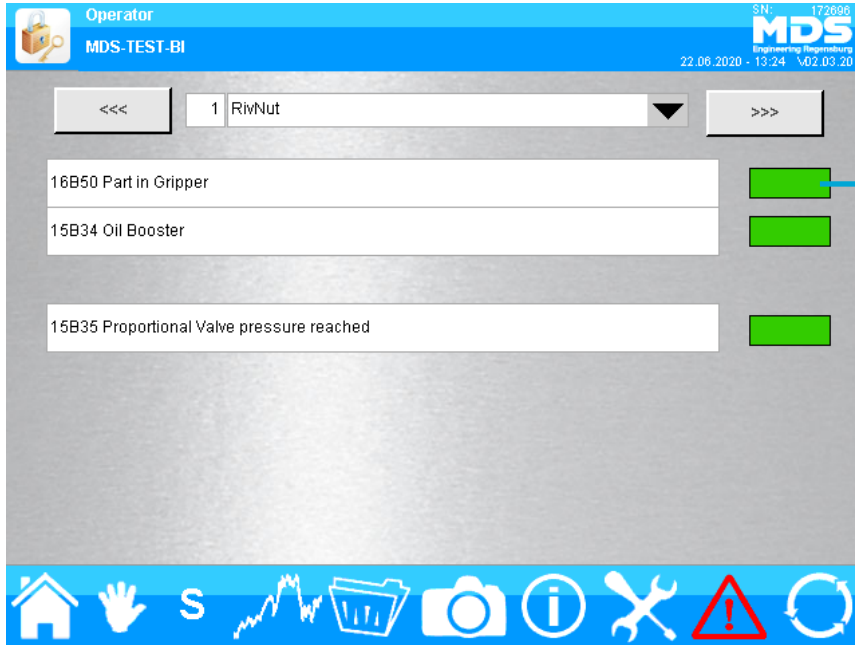
General Error	Red
General: No Parts on Feeder	Grey
General: Auto mode active	Grey
General: Manual mode active	Grey
General: General Warning	Yellow
General: the entire machine is in the starting position	Green
General: Reserve	Grey
General: Reserve	Grey

<< IN BYTE 0 Part-Nr

Display of robot interface signals and „forcing“ of signals in test mode.

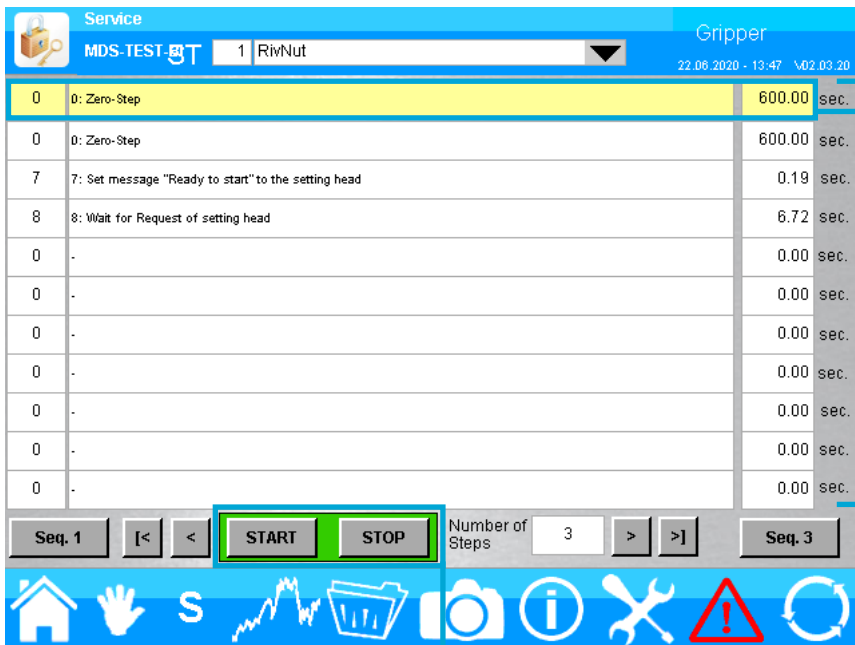
Robot interface

MDS - ALL IN ONE Controller Module: User Interface



Display of the sensor status

Actuator independent sensors



Current step with description

Completed steps and their duration are logged

Step sequence analysis

Logging can be activated or stopped for the analysis

MDS - ALL IN ONE Controller Module: Scope of Features

- ▶ The Home button serves as the main entry and exit point for the Start page.
- ▶ Hand function page for controlling the actuators.
- ▶ Sensor display page for displaying actuator-independent sensors.
- ▶ Force-displacement evaluation page shows force-displacement curves.
- ▶ Additional option to save high-quality data to the panel's internal CFast card and then transfer it to any computer via FTP. Alternatively, you can store the data on a USB mass storage device.
- ▶ Back up and restore system parameters using a USB data carrier.
- ▶ Customer interface page with interface diagnostics for additional diagnostic options when test mode is activated.
- ▶ System diagnostics page for analyzing the hardware system.
- ▶ Display of fault messages and program analysis.
- ▶ Step chain analysis
- ▶ Display robot interface for the customer interface.

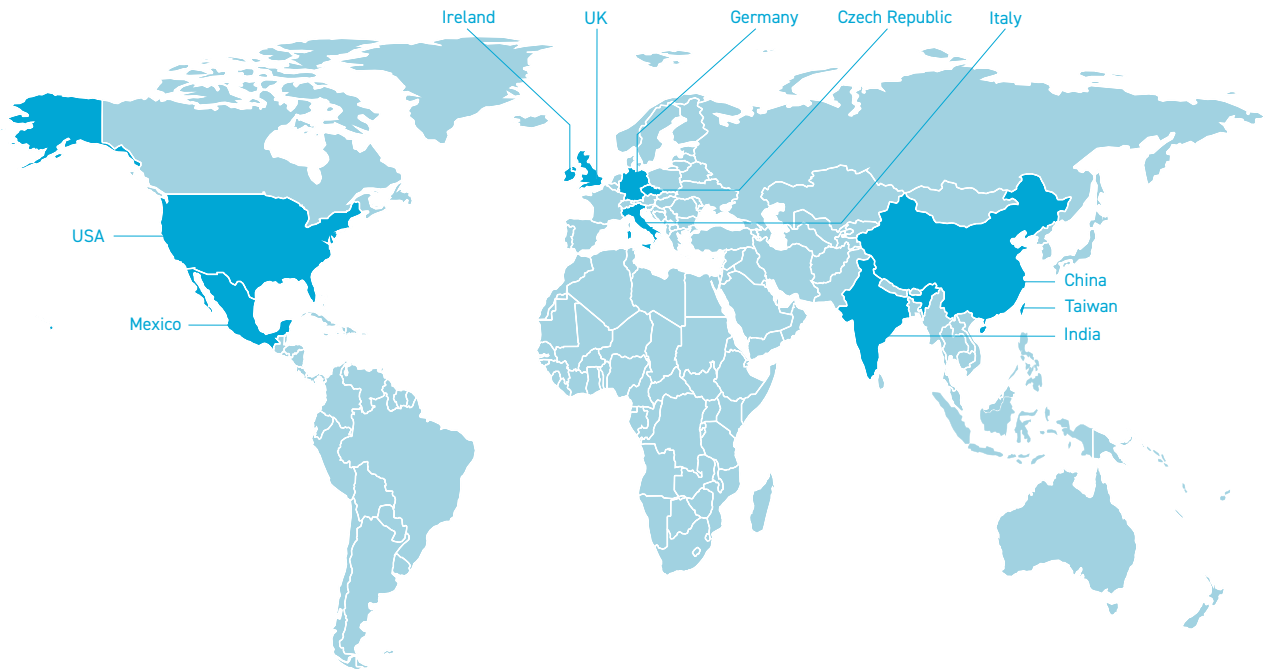
AUTORIV: About Our Company

MDS Maschinen- und Werkzeugbau GmbH & Co. KG has now become MDS Germany GmbH and joined the PennEngineering® Group.

This acquisition represents a key milestone in our long-term global growth strategy, enabling us to expand our product portfolio and offer an even wider range of tailored solutions and services.

Our customers are from the sheet metal processing industry, mostly from the automotive sector. We supply automotive manufacturers (OEMs), Tier1, smaller tiers and suppliers.

We are also present with our production automation systems in the industries of trucks, white goods, heating, ventilation and air conditioning systems (HVAC), electronics, and agricultural machinery. Our main markets are Europe, North and Central America.



AUTORIV: A Brand of the MDS Fastening Systems

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